(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 8 July 2004 (08.07.2004)

PCT

(10) International Publication Number WO 2004/057640 A2

(51) International Patent Classification7:

H01J 29/00

(21) International Application Number:

PCT/EP2003/014476

(22) International Filing Date:

12 December 2003 (12.12.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 02080367.2

19 December 2002 (19.12.2002)

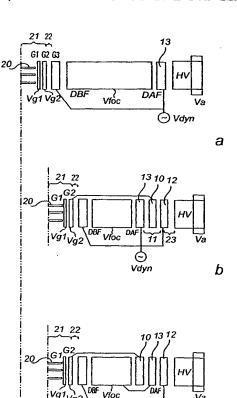
- (71) Applicant (for all designated States except US): LG. PHILIPS DISPLAYS [NL/NL]; Zwaanstraat 2A, NL-5651 CA Eindhoven (NL).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): STEINHAUSER,

Heidrun [NL/NL]; LG. Philips Displays, Zwaanstraat 2A, NL-5651 CA Eindhoven (NL).

- (74) Agent: VAN STRAATEN, Joop; Octrooibureau van Straaten, Mgr. Bosstraat 22, NL-5401 EB Uden (NL).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE (utility model), DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,

[Continued on next page]

(54) Title: DISPLAY DEVICE HAVING AN ELECTRON GUN WITH A PRE-FOCUSING LENS PORTION



(57) Abstract: This invention relates to a display device comprising a cathode ray tube (1), the cathode ray tube having an electron gun (7) comprising a pre-focusing lens portion, for generating a pre-focusing lens field (22), and a main lens portion, for generating a main lens field (23). The electron gun (7) further comprises an additional grid (10), being positioned in proximity with said main lens portion, whereby a potential Vgx is arranged to be applied to said additional grid (10), for generating, together with one of the potentials Vfoc or Vdyn, an additional lens field in proximity with said main lens field, whereby, in operation, the main lens field and the additional lens field is arranged to cooperate to form an effective main lens field.

Vdyn

WO 2004/057640 A2



SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

 without international search report and to be republished upon receipt of that report For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.